



UNIVERSIDADE FEDERAL DO CEARÁ

FEDERAL UNIVERSITY OF CEARÁ
OFFICE OF THE VICE PROVOST FOR UNDERGRADUATION (PROGRAD)
COORDINATION FOR PROJECT AND CURRICULUM DEVELOPMENT
CURRICULUM DEVELOPMENT DIVISION

1. Academic unit offering the curricular component (Faculty, Center, Institute, Campus):

Center of Technology

2. Department offering the curricular component (when applicable):

Electrical Engineering Department

3. Undergraduate course(s) offering the curricular component

Code of the Course	Name of the Course	Course Degree ¹	Curriculum (Year/Semester)	Nature of the Component ²	Semester of Offer ³	Habilitation ⁴
91	Telecommunications Engineering	Bachelor	2015.1	Mandatory	06	-

4. Name of the curricular component:

Laboratory of Electrical Installations

5. Code of the curricular component (filled by PROGRAD):

TH0231

6. Prerequisites

No ()

Yes (x)

Code

Name of the curricular component / activity

7. Co-requisite

No ()

Yes ()

Code

Name of the curricular component / activity

TH0230

Electrical Installations

8. Equivalences

No ()

Yes (x)

Code

Name of the curricular component / activity

TH0167

Electrical Installations

9. Day period of the curricular component (more than one option can be selected):

(x) Morning

(x) Afternoon

(x) Night

10. Regime of the curricular component:

¹ Fill with *Bachelor (Engineer), Licenciante, or Technologist.*

² Fill with *Mandatory, Optional, or Elective.*

³ Fill when mandatory.

⁴ When elective, fill with the habilitation or emphasis to which the curricular component is linked.

Semester Yearly Modular**11. Justificatory for the creation/regulamentation of this curricular component**

Professionally prepare engineering students by providing practical knowledge to enable them to analyze basic projects involving residential and building electrical installations.

12. Syllabus:

Basic concepts of electricity; schemes: single-line, multi-line and functional; command and lighting device; load forecasting and division of circuits for electrical installations; electric power supply; dimensioning of electrical installations; grounding; protection.

13. Program:

Unit I - Understanding alternating current; electrical quantities; Ohm's laws; Kirchhoff laws; Serial / parallel circuit; power and electric energy; inductive and capacitive single phase circuits; single phase circuits; power factor correction; understanding three phase circuits.

Unit II - Schemes: single-line, multi-line and functional.

Unit III - Installation of lamps, simple switches and sockets; install parallel and intermediate switch.

Unit IV - Lighting load forecast and sockets according to NBR 5410/2004; switchboard; division of the installation into terminal circuits; dimensioning of electrical conductors.

Unit V - NT 001 - COELCE; terminology; supply limits; general conditions of supply; measurement and protection; own generation.

Unit VI - Electric shock; earth taking; types of grounding; protective grounding components; grounding conductor section.

14. Workload description

Number of Weeks:	Number of Credits:	Total Workload in Hours:	Theory Workload in Hours:	Practice Workload in Hours:
16	02	32	-	32

15. Basic bibliography:

- 1- CAVALIN, Geraldo. Instalações elétricas prediais. 18a ed., Editora: Érica, 2006.
- 2- GUSSOW, M. Eletricidade Básica. 2a ed., Coleção Schaum. Editora: Bookman, 2009.
- 3- COELCE. NT 001. Fortaleza: Coelce, 2008, 49p.

16. Complementary bibliography:

1. CREDER, Hélio. Instalações elétricas. 15a ed., Rio de Janeiro: Livros Técnicos e Científicos, 2007.
2. EDMINISTER, J. Circuitos Elétricos. 2a ed., Coleção Schaum. Editora: Bookman, 2005.
3. NISKIER, Julio. Instalações elétricas. Colaboração de Archibald Joseph Macintyre. 5a ed., Rio de Janeiro: Livros Técnicos e Científicos, 2008.
4. COTRIM, Ademaro Alberto Machado Bittencourt. Instalações elétricas. 5a ed., ed. São Paulo: Pearson, 2008.